

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/21/10 has been entered.

Claim Status

Claims 1-3, 6, and 8-10 are pending. Claims 4-5 and 7 are cancelled.

Withdrawn Rejections

The rejection of claims 1-3, 6, and 8-10 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn in light of applicant's amendments.

The rejection of claims 1-3, 6, and 8-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Dalle et al (US Patent No. 6,013,682) in view of Kasprzak (US Patent No. 5,443,760) is withdrawn in light of applicant's amendments.

New Rejections

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 6, and 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation optionally one or more suitable oils, and the claim also recites 0.5-2.5 wt.% silicone oils, which is the narrower statement of the range/limitation. As evidenced by the instant specification (see pg. 2, lines 25-28) and claim 3, a suitable oil

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can be selected from a silicone oil. It appears as if applicant is claiming an embodiment in which more silicone oil is claimed in addition to 0.5-2.5 wt.% silicone oil. As such, it is not clear how much silicone oil is incorporated in the emulsion. Applicant's clarification is respectfully requested.

Claims 2, 6, and 8-10 are rejected as being dependent on a rejected base claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 6, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalle et al (US Patent No. 6,013,682) in view of Kasprzak (US Patent No. 5,443,760), Garti et al (International Journal of Cosmetic Science 8, pp. 1-8, 1986; see IDS of 6/23/05), and Kwetkat et al (US 2005/0031653).

Dalle et al teach a method of making a silicone in water emulsion and teach that the s/w emulsions produced have a wide variety of silicone volume fractions, particle sizes, and molecular weights, including novel materials having large volume fractions of the silicone and large particles containing high molecular weight silicone gums (column 1, lines 58-67; column 2, lines 1-6). The silicone wax produced is a divinyl dimethicone/dimethicone copolymer resulting from the reaction of polysiloxane and at least one organosilicon material that reacts with the polysiloxane by a chain reaction in the presence of a metal containing catalyst for said chain extension reaction (column 2, lines 15-27; examples). Dalle et al further teach that the mixture used to form the emulsion also contains at least one surfactant, which can include glycols, such as polyethylene glycol, polypropylene glycol, and diethylene glycol (column 4, lines 51-55). These surfactants can be used in an amount of 1-30 wt% based on the total weight of the composition (column 5, lines 43-46). The emulsion composition is formed by mixing the silicone reaction, water, and surfactant to form a coarse water in oil mixture (column 5, lines 56-60). Accordingly, the mixture is emulsified and inverted into a

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silicone in water emulsion. Dalle et al teach that the emulsifier, Laureth-3 and Laureth-23 are added to the emulsion in examples 1-5, which are used an amount of approximately 3 wt.%. According to the instant specification, preferred emulsifiers are ethoxylated lauryl alcohol (Laureth), pg. 11, lines 28-29. The emulsions according to Dalle et al can be useful for a personal care applications such as on hair, skin, mucous, teeth, etc (column 7, lines 8-27). Dalle et al teach that emulsions can be used in hair shampoos, hair conditioners, hair sprays, mousses, permanents, etc. Moreover, Dalle et al teach that the waxes can be incorporated in the personal care products in an amount of 0.1 to 25 wt.% of the personal care product (column 7, lines 27-30) and the total amount of water is generally between about 1-99 wt.% (column 6, lines 34-36).

First, Dalle et al do not disclose an emulsion with an oily component further comprising suitable oils, such as silicone oils.

Kasprzak teaches oil-in-water emulsions comprising an oil phase with volatile and non-volatile silicone oils (column 1, lines 52-59). According to Kasprzak, these emulsions can comprise 0.1-60 wt.% of silicone oil or silicone gum (column 8, lines 3-7). Like Dalle et al, the emulsion comprises propylene glycol in its aqueous phase. In addition to propylene glycol, Kasprzak also teaches that glycerin, hexylene glycol, glucose, lactic acid, etc can be used as humectants (column 5, lines 38-46). Furthermore, Kasprzak teaches the incorporation of emollient oils including natural oils, such as, coconut oil, almond oil, corn oil etc (column 5, lines 48-65).

Therefore, it would have been obvious to an artisan of ordinary skill at the time the invention was made to add both silicone oils and natural oils to the oily component

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in the emulsion of Dalle et al. One would have been motivated to do so because silicone oils and natural oils are also used in oil-in-water emulsions, as suggested by Kasprzak. Furthermore, one would have been motivated to do so because the combined ingredients of silicone wax and silicone oils/natural oils as the oily component of the oil-in-water emulsion would result in a complementary or possibly synergistic effect. It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (see MPEP 2144.06).

Second, Dalle et al do not explicitly teach a transparent oil-in-water emulsion with a refractive index of the aqueous phase that does not differ more than 0.003 from the refractive index of the oil component.

Garti et al teach transparent microemulsions for cosmetic applications (abstract). According to Garti et al, polyols in the water phase can equalize the refractive indices of both the water and oil phases improving the emulsion's stability and transparency (abstract; pg. 2, lines 1-21). Garti et al teach polyols, such as glycerol, sorbitol, and mannitol and emulsifiers, Laureth-23, Steareth-2, Steareth-20, etc (pg. 2, "Materials and Methods", first paragraph; pg. 4, Table 1; abstract).

Therefore, it would have been obvious to an artisan of ordinary skill at the time the invention was made to look at the teachings of Garti et al and expect the silicone-in-water emulsions of Dalle et al to be transparent as well as its two phases to have equal

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refractive indices. One would have expected this since Garti et al teach that polyols included in the water phase, which Dalle et al teach, can equalize the refractive indices of both the water and oil phases improving the emulsion's stability and transparency. Furthermore, it is noted that Dalle et al teach fine particle sizes, such as 8.5 microns, 5 microns, 13 microns, 2.2 microns (see examples 4-6) that are encompassed by particle sizes in the instant specification. According to the instant specification, particle sizes of sprayable oil-like formulations are in the range from about 0.3 -10 microns (pg. 5, lines 1-6). An artisan of ordinary skill knows that such fine particle sizes result in clear emulsions. Thus, since the instant application and Dalle et al teach similar particle sizes, the examiner has no reason to believe that Dalle et al modified by Kasprzak et al teaches a cloudy emulsion.

Third, Dalle et al do not explicitly teach an emulsion with a viscosity of less than 100 mPas.

Kwetkat et al teach sprayable oil-in-water emulsions with viscosities of preferably 50-1,000 mPas (abstract; paragraph 0013). According to Kwetkat et al, it is essential that its emulsions have low viscosities in order to be sprayed (paragraph 0005).

Therefore, it would have been obvious to an artisan of ordinary skill at the time the invention was made to formulate the emulsions of Dalle et al with a low viscosity and more specifically less than 100 mPas. One would have been motivated to do so since Dalle et al teach emulsions in the form of sprays (i.e. hair sprays) and Kwetkat et al teach that it is essential for sprayable emulsions to have low viscosities within the instant range.

Regarding the amount of silicone waxes, silicone oils, and emulsifiers in the instant claims, Dalle et al teach that the emulsifiers (Laureth-3 and Laureth-23) are taught in amount of about 3 wt.%. Furthermore, Dalle et al teach that the silicone wax can be incorporated in personal care products in an amount of 0.1 to 25 wt.% of the total weight of the product. Kasprzak et al teach that the silicone oils can be present in an amount from 0.1-60 wt.%. Thus, the amount of the silicone wax, silicone oil, and emulsifier encompass and/or nearly touch the instantly claimed amounts. However, it would have been obvious to an artisan of ordinary skill at the time the invention was made to modify and optimize the amounts of the ingredients taught in the oil-in-water emulsion. Optimization of parameters is a routine practice that would be obvious to a person of ordinary skill in the art to employ and reasonably expect success. One would have been motivated to determine the optimal amount of each ingredient in order to best achieve the desired results, which ultimately depends on the desired use of the emulsion. See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) & MPEP 2144.05. Burden is on applicant to prove the criticality of the claimed ranges. Additionally, the examiner notes that "about" precedes some of the amounts of the claimed components in the emulsion (i.e., about 5 to about 15 wt.% of an oily component). As such, the examiner directs applicant's attention to MPEP 2111.01. Since applicant has not defined the term "about" to mean exactly, "about 5 to about 15 wt.%" is given latitude.

Lastly, it would have been obvious to an artisan of ordinary skill at the time the invention was made to combine the teachings above and utilize the polyols of Dalle et al

or Kasprzak. One would have been motivated to do so since Kasprzak teaches that the instant humectant and Dalle's surfactant are both humectants added to the aqueous phase of oil-in-water emulsion. Thus, one would have been motivated to substitute the instant humectant (glycerin) into the composition of Dalle et al with an expectation of similar results since Kasprzak teaches the equivalency of the polyols. Moreover, one would have been motivated to add glycerin to the emulsions of Dalle et al since Garti et al teach that glycerin serves to equalize the refractive indices of two phases and thus enhances stability and transparency of emulsions.

Response to Arguments

Applicant's arguments filed 1/21/10 have been fully considered but they are not persuasive.

Applicant argues that there is no teaching or suggestion of a transparent oil-in-water emulsion recited in the present claims wherein the refractive index of the aqueous phase does not differ more than about 0.003 from the refractive index of the oil phase. Applicant further argues that the nonionic surfactants recited by Dalle are not the same as the polyols recited by the present claims and there is clearly no teaching or suggestion that a polyol should or could be included to adjust the refractive index of the aqueous phase. Additionally, applicant contends that there is no teaching or suggestion in Dalle of an emulsifier selected from an ethoxylated or propoxylated fatty alcohol or silicone oils present in the emulsion recited by the present claims.

Applicant's arguments with respect to the Final Office Action mailed 10/28/09 have been considered but are moot in view of the new ground(s) of rejection above. The examiner has changed the rejection to incorporate Garti et al. Garti provides further evidence for an artisan to reasonably expect that the emulsions of Dalle to be both transparent and have phases wherein the refractive index is equal. Additionally, the examiner reminds applicant that they have provided no objective evidence that the prior art fails to meet the limitations of claim 1. According to MPEP 716.01, "Objective evidence which must be factually supported by an appropriate affidavit or declaration to be of probative value includes evidence of unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant." See, for example, *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984) ("It is well settled that unexpected results must be established by factual evidence.")

In regard to applicant's argument that Dalle does not teach the instant polyol, the examiner notes that Dalle teaches polypropylene glycol, which is recited in independent claim 1. Furthermore, all the instant claims are rejected over the combination of Dalle, Kasprzak, Garti, and Kwetkat not Dalle alone. Although Dalle does not teach the glycerin recited in claim 8, one would have been motivated to add glycerin as a humectant to the composition of Dalle because Kasprzak teaches a humectant is a conventional cosmetic ingredient that provides moisturization. As such, one would be motivated to add glycerin to the composition of Dalle, which is directed towards lotions,

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makeup, hair care compositions, in order to impart more moisturization to its compositions. Furthermore, Garti newly provides motivation that glycerin serves to equalize the refractive indices of two phases and thus enhances stability and transparency of emulsions.

In regard to applicant's argument that there is no teaching or suggestion in Dalle to add an emulsifier selected from an ethoxylated or propoxylated fatty alcohol or silicone oils present in the instant emulsion, the examiner notes that Dalle teaches that Laureth-23 can be added to it emulsion. As evidenced by chemicalregister.com, Laureth-23 is ethoxylated C14 fatty alcohol (also see instant specification pg. 11, lines 28-29). As such, Dalle clearly teaches an ethoxylated fatty alcohol. Additionally, although Dalle does not teach the addition of silicone oils, the examiner notes that Dalle was combined with Kasprzak to teach the obvious incorporation of silicone oils. The examiner reminds applicant that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding Kasprzak, applicant further argues that the examiner has failed to provide support for this conclusion that the combined ingredients of silicone wax and silicone oils as the oily component of the oil-in-water emulsion would result in a complementary or possibly synergistic effect. Additionally, applicant argues that Kasprzak fails to cure the deficiencies of Dalle since there is no teaching or suggestion

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of the transparent, sprayable oil-in-water emulsion having the properties recited by the present claims.

In response to applicant's arguments regarding Kasprzak, the examiner disagrees with applicant that no support for the conclusion was given for the obvious incorporation of silicone oils. Since Kasprzak and Dalle teach that silicone waxes as well as silicone oils can be incorporated in the oil phase of oil-in-water emulsions, an artisan of ordinary skill would be motivated to add both silicone waxes and silicone oils to the oil component of Dalle's emulsions.

Regarding applicant's argument that Kasprzak fails to cure the deficiencies of Dalle, the examiner notes that the arguments regarding Dalle are addressed above and they are incorporated herein.

As such, it is the examiner's position that the instant claims are rendered obvious for the reasons stated above.

Conclusion

Claims 1-3, 6, and 8-10 are rejected. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RACHAEL WELTER whose telephone number is (571)270-5237. The examiner can normally be reached 7:30-5:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila Landau can be reached at 571-272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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REW

/Lakshmi S Channavajjala/
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